

NEWTON'S FIRST LAW WORKSHEET SOLUTIONS

1. Blood rushes from your head to your feet as a descending elevator quickly stops because, prior to stopping, the blood in your body has a forward (toward your feet) inertia. When you suddenly come to a stop, the blood's inertia keeps it going forward.
2. The rapid downward motion gives the ketchup a forward inertia. Suddenly stopping keeps the paste moving in a forward direction due to its inertia.
3. Head-rests are placed in car seats to avoid whiplash. If the vehicle is suddenly struck from behind, your torso will be propelled forward by the car seat. The head's inertia will cause the head to lag behind and thus "snap backward".
4. Inertia, inertia, inertia.
5. The object is moving forward at a constant speed – uniform motion. Under this circumstance, the net force on the body is zero, that is, there is no unbalanced force.
6. Certainly the greater the mass, the greater the inertia of the object. Inertia is the resistance to change in an object's motion. If an object is coming at you at a greater speed, more effort will be required to bring it to rest. Thus it has a greater resistance to change in its motion and hence, a greater inertia.
7. Ben Tooclose knows that, by changing his direction of travel, it will cause the moose to change its direction of travel too. However, because the moose is of a much greater mass, it will take it longer to overcome its inertia.
8. Remember... In order for an object to change direction, it must have an unbalanced force applied to it. When the ball leaves the cup, there is no force other than gravity and the normal force acting on it. Thus, Bird's Eye View 2 is favoured.